

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

Listing of Claims:

Claim 1-13 (Canceled).

Claim 14 (Currently Amended): A method for ~~detection of end stops~~ detecting an end stop of a synchronous multi-phase gear motor operated in a stepped mode, ~~using a measurement of a sum of currents circulating in each of N phases of a gear motor,~~ the method comprising:

measuring a sum of currents circulating in each of N phases of a gear motor; and
calculating an end-stop detection threshold relative to evolution of the sum of the currents measured in said step of measuring.

Claim 15 (Currently Amended): A detection method according to claim 14, wherein ~~the measurement~~ said measuring of the sum of the currents circulating in each of the N phases of the gear motor is ~~obtained~~ performed by sampling.

Claim 16 (Currently Amended): A detection method according to claim 14, wherein ~~the~~ further comprising the step of:

processing the sampled current values ~~are processed~~ by a mathematical or statistical operation; and
determining the end-stop detection threshold is ~~determined~~ relative to the result of the processing.

Claim 17 (Currently Amended): A detection method according to claim 14, further comprising the step of:

-detecting an end stop for discrimination between a zone of synchronous operation of the gear motor in micro-stepped mode and a zone of arrival at an end stop.

Claim 18 (Previously Presented): A detection method according to claim 14, applied to two-phase stepper gear motors.

Claim 19 (Previously Presented): A detection method according to claim 14, applied to three-phase stepper gear motors.

Claim 20 (Previously Presented): A detection method according to claim 14, applied to gear motors of automobile air-conditioning valves.

Claim 21 (Currently Amended): A detection method according to claim 14, further comprising the step of:

determining maximum torque applicable by the gear motor.

Claim 22 (Currently Amended): A detection method according to claim 14, further comprising the step of:

determining loss of synchronization of a rotor of the gear motor.

Claim 23 (Previously Presented): A detection method according to claim 14, applied to stepper gear motors having a reduction ratio of 1 to r , where r is a finite real number.

Claim 24 (Previously Presented): A detection method according to claim 14, applied to stepper gear motors driven in micro-step mode with m micro-steps per step, where m is an integral number greater than or equal to 1.

Claim 25 (Currently Amended): A multi-phase gear motor provided with a stepper motor and an electronic circuit for operation in a micro-stepped mode, comprising:

~~means for detecting an~~ an end stop detector of a circuit ~~for measuring that is~~
configured to measure a total current consumed by N phases of a motor, and configured to
detect the end stop based on the total current measurement.

Claim 26 (Currently Amended): A multi-phase gear motor according to claim 25, wherein the end-stop ~~detection means~~ detector further comprises:

a sampling resistor- R_{1i} ; and

a sensing unit configured to measure ~~means for measuring~~, in the sampling resistor,
the total current consumed in a sum of the N phases of the motor.